

CLAIMS

1. A gamma camera comprising:
 - a plurality of pixelated detectors wherein each pixelated detector provides a detector signal responsive to photons that are incident on it;
 - 5 a plurality of processing circuits that receive said detector signals and provide processed signals responsive to said detector signals; and
 - at least one printed circuit board on which said processing circuits are mounted and having conductors thereon that carry said detector signals to said processing circuits;
 - wherein said processing circuits are mounted on said printed circuit board at locations
 - 10 remote from said detectors; and
 - wherein said plurality of pixelated detectors form a two-dimensional planar array.
2. A gamma camera according to claim 1 comprising a motherboard having conductors thereon and wherein conductors in said mother board and conductors in said printed circuit
- 15 board are in electrical contact and wherein said conductors on said motherboard carry processed signals.
3. A gamma camera according to claim 1 and including a heat-insulating material situated between said pixelated detectors and said processing circuits.
- 20 4. A gamma camera according to claim 3 wherein said heat-insulating material and said pixelated detectors are spaced apart.
5. A gamma camera according to claim 4 comprising an air circulator that circulates air in
- 25 said space between said heat-insulating material and said pixelated detectors.
6. A gamma camera according to claim 3 wherein said heat-insulating material and said processing circuits are spaced apart.
- 30 7. A gamma camera according to claim 6 comprising an air circulator that circulates air in said space between said heat insulating material and said processing circuits.
8. A gamma camera according to claim 5 comprising an air cooler that cools air circulated by said air circulator.

9. A gamma camera according to claim 1 and comprising a cooling system comprising heat pipes and a means for removing heat from said heat pipes wherein said heat pipes carry heat from said gamma camera to said means for removing heat.

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10. A gamma camera according to claim 1 and comprising a cooling system having a refrigerant fluid, a means for removing heat from said refrigerant fluid and a means for circulating said refrigerant fluid between said gamma camera and said means for removing heat.

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11. A gamma camera according to claim 1 wherein said processing circuits are comprised in ASICs.

12. A method of connecting a two dimensional planar array of pixelated gamma ray detectors with processing circuits for processing signals from said detector comprising:

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locating said processing circuits so that they are remotely situated with respect to said pixelated detector; and

connecting said pixelated detectors to said processing circuits via conductors of a printed circuit board.

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13. A method of protecting pixelated detectors in a gamma camera from heat radiated by processing circuits that process signals from said pixelated detectors comprising:

connecting said pixelated detectors in accordance with claim 12 so as to provide a space between said pixelated detectors and said processing circuits; and

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circulating air in said space.

14. A method according to claim 13 comprising positioning heat-insulating material in said space between said pixelated detectors and said processing circuits.

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15. A method according to claim 14 wherein positioning heat-insulating material comprises positioning heat-insulating material so that there is a space between said heat-insulating material and said pixelated detectors.

16. A method according to claim 15 wherein circulating air comprises circulating air in a region of said space between said heat-insulating material and said pixelated detectors.

17. A method according to claim 14 wherein positioning heat-insulating material comprises
5 positioning heat-insulating material so that there is a space between said heat-insulating material and said processing circuits.

18. A method according to claim 17 wherein circulating air comprises circulating air in a region of said space between said heat-insulating material and said processing circuits.

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19. A method according to claim 13 wherein circulating air comprises cooling air and circulating cooled air.